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Rec'd PCT/PTO 09 NOV 2001

SEQUENCE LISTING

<110> TOPOROIK, Amir et al.

<120> CHORDIN-LIKE HOMOLOGS

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<140> US 09/890,456

<141> 2001-08-01

<150> IL 132846

<151> 1999-11-10

<150> IL 133767

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gtaaaagatg	aggaaactga	ggctcagaga	ggtgaagtac	ctggcccaag	gccacacagc	1260
cagaatcttc	cacttgactc	agatcaagaa	agtcaggaag	caagacttcc	agaaagaggc	1320



acagcacttc	cgactgctcg	ctggccccc	cgaagggtcac	tggaacgtct	tcctagccca	1380
gaccctggag	ctgaagggtca	cggccaggtcc	agacaaaagt	accaagacat	aacaaagacc	1440
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gcataacccat	caaaa					1515

<210> 8  
 <211> 1817  
 <212> DNA  
 <213> Homo sapiens

<400> 8

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ttaccctctc	tgggcctcat	ttgtctaatc	ataataatta	acgctgatac	catgatataa	180
atctgtacag	catttcactg	cttgattccc	taactgccct	gtgagataag	cgtaaaggct	240
cagagacagt	ggcatgccc	gtgttgcaca	gtaagtgtgt	ggtaaagccg	agattcaaac	300
tcagaccttc	tggccccttg	cctaggagag	catgcccagt	tgtctagcag	attctctttt	360
gcctgagtgg	cccagatgac	atctctttta	gagctagaaa	gaaggagaaa	tgagacaggg	420
tctttgggct	ggagcctcct	gggactaaca	tggcactggt	cggtttgcca	ggcccagaca	480
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gttaccgcct	ccactgtccg	cctgtccact	gccccagcc	tgtgacggag	ccacagcaat	660
gctgtcccaa	gtgtgtggaa	cctcacactc	cctctggact	ccgggcccc	ccaaagtcct	720
gccagcaca	cgggaccatg	taccaacacg	gagagatctt	cagtgcccat	gagctgttcc	780
cctcccgct	gccaaccag	tgtgtcctct	gcagctgcac	agagggccag	atctactgcg	840
gcctcacaac	ctgccccgaa	ccaggctgcc	cagcaccctt	cccgtgcca	gactcctgct	900
gccaagcctg	caaagatgag	gcaagtgagc	aatcggatga	agaggacagt	gtgcagtcgc	960
tccatggggg	gagacatcct	caggatccat	gttccagtga	tgctgggaga	aagagaggcc	1020
cgggcacccc	agccccact	ggcctcagcg	cccctctgag	cttcatccct	cgccacttca	1080
gaccaagggg	agcaggcagc	acaactgtca	agatcgtcct	gaaggagaaa	cataagaaa	1140
cctgtgtgca	tggcggaag	acgtactccc	acggggaggt	gtggcacccg	gccttccgtg	1200
ccttcggccc	cttgccctgc	atcctatgca	cctgtgagga	tggccgccag	gactgccagc	1260
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gtcccaaggc	accgggccgg	gtcctcgctc	acacatcggt	atccccagc	ccagacaacc	1440
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gccagaatct	tccacttgac	tcagatcaag	aaagtcagga	agcaagactt	ccagaaagag	1620
gcacagcact	tccgactgct	cgctggcccc	cacgaagggtc	actggaacgt	cttcctagcc	1680
cagaccctgg	agctgaaggt	cacggccagt	ccagacaaag	tgaccaagac	ataacaaaga	1740
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ttgcataacc	atcaaaa					1817

<210> 9  
 <211> 1622  
 <212> DNA  
 <213> Homo sapiens

<400> 9

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cagagacagt	ggcatgccc	gtgttgcaca	gtaagtgtgt	ggtaaagccg	agattcaaac	300
tcagaccttc	tggccccttg	cctaggagag	catgcccagt	tgtctagcag	attctctttt	360

gcctgagtgg	cccagatgac	atctctttta	gagctagaaa	gaaggagaaa	tgagacaggg	420
tctttgggct	ggagcctcct	gggactaaca	tggcactggg	cggtttgcca	ggcccagaca	480
tgttctgcct	tttccatggg	aagagatact	ccccggcgga	gagctggcac	ccctacttgg	540
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gttaccgcct	ccactgtccg	cctgtccact	gccccagcc	tgtgacggag	ccacagcaat	660
gctgtcccaa	gtgtgtggaa	cctcacactc	cctctggact	ccggggccca	ccaaagtcct	720
gccagcacia	cgggaccatg	taccaacacg	gagagatctt	cagtgcccat	gagctgttcc	780
cctcccgcct	gcccaccag	tgtgtcctct	gcagctgcac	agagggccag	atctactgcg	840
gcctcacaac	ctgccccgaa	ccaggctgcc	cagcaccctt	cccgtgcca	gactcctgct	900
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tccatggggg	gagacatcct	caggatccat	gttccagtga	tgctgggaga	aagagaggcc	1020
cgggcacccc	agccccact	ggcctcagcg	cccctctgag	cttcatccct	cgccacttca	1080
gaccaagggg	agcaggcagc	acaactgtca	agatcgtcct	gaaggagaaa	cataagaaag	1140
aggacaaagc	agaccctggc	cacagtgaga	tcagttctac	caggtgtccc	aaggcaccgg	1200
gccgggtcct	cgtccacaca	tcgggtatccc	caagcccaga	caacctgcgt	cgctttgccc	1260
tggaacacga	ggcctcggac	ttgggtggaga	tctacctctg	gaagctggta	aaagatgagg	1320
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ttgactcaga	tcaagaaagt	caggaagcaa	gacttccaga	aagaggcaca	gcacttccga	1440
ctgctcgctg	gccccacga	aggtcactgg	aacgtcttcc	tagcccagac	cctggagctg	1500
aaggtcacgg	ccagtccaga	caaagtgacc	aagacataac	aaagacctaa	cagttgcaga	1560
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aa						1622

<210> 10

<211> 1567

<212> DNA

<213> Homo sapiens

<400> 10

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ttaccctctc	tgggcctcat	ttgtctaata	ataataatta	acgttgatac	catgatataa	180
atctgtacag	catttccactg	cttgattccc	taactgccct	gtgagataag	cgtaaggct	240
cagagacagt	ggcatgccc	gtgttgacaca	gtaagtgtgt	ggtaaagccg	agattcaaac	300
tcagaccttc	tggcccttg	cctaggagag	catgccctag	tgtctagcag	attctctttt	360
gcctgagtgg	cccagatgac	atctctttta	gagctagaaa	gaaggagaaa	tgagacaggg	420
tctttgggct	ggagcctcct	gggactaaca	tggcactggg	cggtttgcca	ggcccagaca	480
tgttctgcct	tttccatggg	aagagatact	ccccggcgga	gagctggcac	ccctacttgg	540
agccacaagg	cctgatgtac	tgcttgcgct	gtacctgctc	agagggcgcc	catgtgagtt	600
gttaccgcct	ccactgtccg	cctgtccact	gccccagcc	tgtgacggag	ccacagcaat	660
gctgtcccaa	gtgtgtggaa	cctcacactc	cctctggact	ccggggccca	ccaaagtcct	720
gccagcacia	cgggaccatg	taccaacacg	gagagatctt	cagtgcccat	gagctgttcc	780
cctcccgcct	gcccaccag	tgtgtcctct	gcagctgcac	agagggccag	atctactgcg	840
gcctcacaac	ctgccccgaa	ccaggctgcc	cagcaccctt	cccgtgcca	gactcctgct	900
gccaagcctg	caaagatgag	gcaagtgagc	aatcggatga	agaggacagt	gtgcagtcgc	960
tccatggggg	gagacatcct	caggatccat	gttccagtga	tgctgggaga	aagagaggcc	1020
cgggcacccc	agccccact	ggcctcagcg	cccctctgag	cttcatccct	cgccacttca	1080
gaccaagggg	agcaggcagc	acaactgtca	agatcgtcct	gaaggagaaa	cataagaaag	1140
aggacaaagc	agaccctggc	cacagtgaga	tcagttctac	caggtgtccc	aaggcaccgg	1200
gccgggtcct	cgtccacaca	tcgggtatccc	caagcccaga	caacctgcgt	cgctttgccc	1260
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tccacttgac	tcagatcaag	aaagtccagg	agcaagactt	ccagaaagag	gcacagcact	1380
tccgactgct	cgctggcccc	cacgaaggct	actggaacgt	cttcctagcc	cagaccctgg	1440
agctgaaggt	cacggccagt	ccagacaaaag	tgaccaagac	ataacaaaga	cctaacagtt	1500
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atcaaaa						1567



<210> 11  
 <211> 1202  
 <212> DNA  
 <213> Mouse

<220>  
 <221> UNSURE  
 <222> (1)..(1202)  
 <223> n = a,c,g,t any unknown or other

<400> 11  
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 aagccctgga ggctggcttg ccaaatacctt gtcagtgtnt ttattgatta gtctgagaat 120  
 atcttagacc tcacccacaa ggttctgtgt ggagcctgtg ctctctgtct gtctgtctgt 180  
 ctgtctgtct gtctgtctgt ctgcctgcct ctctctgtct gtctccgtct gtctctgtct 240  
 ctctgtctgt ctctgtctgt ctctttctct ctgtctctct ctgtgtctct gtctctgtct 300  
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 gcagagacat tcccaggatc catgctcgga gaggagaggc cccagcacgc cagccccac 480  
 cagcctcagc tcccctctgg gcttcatccn tcgccacttc cagtcagtag gaatgggcag 540  
 cacaaccatc aagattatct tgaaggagaa acataaaaaa gcttgcacac acaatgggaa 600  
 gacatactcc catggggagg tgtggcacc cactgtgctc tcctttggcc ccatgccctg 660  
 catcctgtgc acatgtattg atggctacca ggactgccac cgtgtgacct gccccacca 720  
 atatccctgc agtcaacca agaaagtggc tgggaagtgc tgcaagatct gcccagagga 780  
 cgaggcggaa gatgaccaca gtgaggtcat ttccaccggg tgtccaagg taccaggcca 840  
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 gcatgaagcc tctgaccagg tagagatgta catttggaag ctggtgaaag gaatttacca 960  
 cttggttcag atcaagagag tcaggaagca agatttccag aaagagggtc agaacttccg 1020  
 gctgctcacc ggcacccatg aagggtactg gaccgttttc ctagcccaga ttccagagct 1080  
 gaaagttaca gccagcccag acaaagtgc caagacatta tagcaaggac ctaaagagtt 1140  
 gcagatacga gttttattgg ttttgttatt atatattaat aaagaagtcg cattaccctt 1200  
 tc 1202

<210> 12  
 <211> 398  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> UNSURE  
 <222> (1)..(398)  
 <223> Xaa = any amino acid, unknown or other

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 20 25 30  
 Pro Gln Pro Val Thr Glu Pro Gln Gln Cys Cys Pro Lys Cys Val Glu  
 35 40 45  
 Pro His Thr Pro Ser Gly Leu Arg Ala Pro Pro Lys Ser Cys Gln His

50					55					60					
Asn	Gly	Thr	Met	Tyr	Gln	His	Gly	Glu	Ile	Phe	Ser	Ala	His	Glu	Leu
65					70					75					80
Phe	Pro	Ser	Arg	Leu	Pro	Asn	Gln	Cys	Val	Leu	Cys	Ser	Cys	Thr	Glu
				85					90					95	
Gly	Gln	Ile	Tyr	Cys	Gly	Leu	Thr	Thr	Cys	Pro	Glu	Pro	Gly	Cys	Pro
			100					105					110		
Ala	Pro	Leu	Pro	Leu	Pro	Asp	Ser	Cys	Cys	Gln	Ala	Cys	Lys	Asp	Glu
		115					120					125			
Ala	Ser	Glu	Gln	Ser	Asp	Glu	Glu	Asp	Ser	Val	Gln	Ser	Leu	His	Gly
		130					135					140			
Val	Arg	His	Pro	Gln	Asp	Pro	Cys	Ser	Ser	Asp	Ala	Gly	Arg	Lys	Arg
145							150					155			160
Gly	Pro	Gly	Thr	Pro	Ala	Pro	Thr	Gly	Leu	Ser	Ala	Pro	Leu	Ser	Phe
				165					170					175	
Ile	Pro	Arg	His	Phe	Arg	Pro	Lys	Gly	Ala	Gly	Ser	Thr	Thr	Val	Lys
			180					185						190	
Ile	Val	Leu	Lys	Glu	Lys	His	Xaa	Lys	Ala	Cys	Val	His	Gly	Gly	Lys
		195					200					205			
Thr	Tyr	Ser	His	Gly	Glu	Val	Trp	His	Pro	Ala	Phe	Arg	Ala	Phe	Gly
		210					215					220			
Pro	Cys	Pro	Cys	Ile	Leu	Cys	Thr	Cys	Glu	Asp	Gly	Arg	Gln	Asp	Cys
225							230					235			240
Gln	Arg	Val	Thr	Cys	Pro	Thr	Lys	Tyr	Pro	Cys	Arg	His	Pro	Glu	Lys
				245					250					255	
Val	Ala	Gly	Lys	Cys	Cys	Lys	Ile	Cys	Pro	Glu	Asp	Lys	Ala	Asp	Pro
			260					265					270		
Gly	His	Ser	Glu	Ile	Ser	Ser	Thr	Arg	Cys	Pro	Lys	Ala	Pro	Gly	Arg
		275					280					285			
Val	Leu	Val	His	Thr	Ser	Val	Ser	Pro	Ser	Pro	Asp	Asn	Leu	Arg	Arg
		290					295					300			
Phe	Ala	Leu	Glu	His	Glu	Ala	Ser	Asp	Leu	Val	Glu	Ile	Tyr	Leu	Trp
305							310					315			320
Lys	Leu	Val	Lys	Asp	Glu	Glu	Thr	Glu	Ala	Gln	Arg	Gly	Glu	Val	Pro
				325					330					335	
Gly	Pro	Arg	Pro	His	Ser	Gln	Asn	Phe	His	Leu	Thr	Gln	Ile	Lys	Lys
			340					345					350		
Val	Arg	Lys	Gln	Asp	Phe	Gln	Lys	Glu	Ala	Gln	His	Phe	Arg	Leu	Leu

355                                      360                                      365  
 Ala Gly Pro His Glu Gly His Trp Asn Val Phe Leu Ala Gln Thr Leu  
     370                                      375                                      380  
 Glu Leu Lys Val Thr Ala Ser Pro Asp Lys Val Thr Lys Thr  
 385                                      390                                      395  
  
 <210> 13  
 <211> 539  
 <212> PRT  
 <213> Homo sapiens  
  
 <220>  
 <221> UNSURE  
 <222> (1)..(539)  
 <223> Xaa = any amino acid, unknown or other  
  
 <400> 13  
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     1                                      5                                      10                                      15  
 Pro Phe Pro Ala Phe Ser Phe His Leu Ser Leu Leu Pro Thr Leu Asp  
                                     20                                      25                                      30  
 Leu Pro Ser Cys Pro Pro Phe Leu Pro Thr Ala Ala Ser Trp Pro Phe  
                                     35                                      40                                      45  
 Ser Asp Pro Ala Leu Ala Ala Asp Leu Leu Gly Ser Cys Gly Leu Ile  
                                     50                                      55                                      60  
 Cys Gly Pro Cys Xaa Ser Val Ser Phe Ser Ser Pro Val Leu Pro Thr  
     65                                      70                                      75                                      80  
 Pro Leu Pro Asp Gln Arg Pro Asp Pro Gly Glu Arg Met Val Pro Glu  
                                     85                                      90                                      95  
 Val Arg Val Leu Ser Ser Leu Leu Gly Leu Ala Leu Leu Trp Phe Pro  
                                     100                                      105                                      110  
 Leu Asp Ser His Ala Arg Ala Arg Pro Asp Met Phe Cys Leu Phe His  
                                     115                                      120                                      125  
 Gly Lys Arg Tyr Ser Pro Gly Glu Ser Trp His Pro Tyr Leu Glu Pro  
                                     130                                      135                                      140  
 Gln Gly Leu Met Tyr Cys Leu Arg Cys Thr Cys Ser Glu Gly Ala His  
     145                                      150                                      155                                      160  
 Val Ser Cys Tyr Arg Leu His Cys Pro Pro Val His Cys Pro Gln Pro  
                                     165                                      170                                      175  
 Val Thr Glu Pro Gln Gln Cys Cys Pro Lys Cys Val Glu Pro His Thr  
                                     180                                      185                                      190  
 Pro Ser Gly Leu Arg Ala Pro Pro Lys Ser Cys Gln His Asn Gly Thr

195					200					205					
Met	Tyr	Gln	His	Gly	Glu	Ile	Phe	Ser	Ala	His	Glu	Leu	Phe	Pro	Ser
210						215					220				
Arg	Leu	Pro	Asn	Gln	Cys	Val	Leu	Cys	Ser	Cys	Thr	Glu	Gly	Gln	Ile
225					230					235					240
Tyr	Cys	Gly	Leu	Thr	Thr	Cys	Pro	Glu	Pro	Gly	Cys	Pro	Ala	Pro	Leu
				245					250					255	
Pro	Leu	Pro	Asp	Ser	Cys	Cys	Gln	Ala	Cys	Lys	Asp	Glu	Ala	Ser	Glu
			260					265					270		
Gln	Ser	Asp	Glu	Glu	Asp	Ser	Val	Gln	Ser	Leu	His	Gly	Val	Arg	His
		275					280					285			
Pro	Gln	Asp	Pro	Cys	Ser	Ser	Asp	Ala	Gly	Arg	Lys	Arg	Gly	Pro	Gly
	290					295					300				
Thr	Pro	Ala	Pro	Thr	Gly	Leu	Ser	Ala	Pro	Leu	Ser	Phe	Ile	Pro	Arg
305					310					315					320
His	Phe	Arg	Pro	Lys	Gly	Ala	Gly	Ser	Thr	Thr	Val	Lys	Ile	Val	Leu
				325					330					335	
Lys	Glu	Lys	His	Xaa	Lys	Ala	Cys	Val	His	Gly	Gly	Lys	Thr	Tyr	Ser
			340					345					350		
His	Gly	Glu	Val	Trp	His	Pro	Ala	Phe	Arg	Ala	Phe	Gly	Pro	Cys	Pro
		355					360					365			
Cys	Ile	Leu	Cys	Thr	Cys	Glu	Asp	Gly	Arg	Gln	Asp	Cys	Gln	Arg	Val
	370					375					380				
Thr	Cys	Pro	Thr	Lys	Tyr	Pro	Cys	Arg	His	Pro	Glu	Lys	Val	Ala	Gly
385					390					395					400
Lys	Cys	Cys	Lys	Ile	Cys	Pro	Glu	Asp	Lys	Ala	Asp	Pro	Gly	His	Ser
				405					410					415	
Glu	Ile	Ser	Ser	Thr	Arg	Cys	Pro	Lys	Ala	Pro	Gly	Arg	Val	Leu	Val
			420					425					430		
His	Thr	Ser	Val	Ser	Pro	Ser	Pro	Asp	Asn	Leu	Arg	Arg	Phe	Ala	Leu
		435					440					445			
Glu	His	Glu	Ala	Ser	Asp	Leu	Val	Glu	Ile	Tyr	Leu	Trp	Lys	Leu	Val
	450					455					460				
Lys	Asp	Glu	Glu	Thr	Glu	Ala	Gln	Arg	Gly	Glu	Val	Pro	Gly	Pro	Arg
465					470					475					480
Pro	His	Ser	Gln	Asn	Phe	His	Leu	Thr	Gln	Ile	Lys	Lys	Val	Arg	Lys
			485						490					495	
Gln	Asp	Phe	Gln	Lys	Glu	Ala	Gln	His	Phe	Arg	Leu	Leu	Ala	Gly	Pro

500	505	510
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515	520	525
Val Thr Ala Ser Pro Asp Lys Val Thr Lys Thr		
530	535	

<210> 14  
 <211> 388  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> UNSURE  
 <222> (1)..(388)  
 <223> Xaa = any amino acid, unknown or other

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 Pro Ser Pro Thr Val Glu Pro His Thr Pro Ser Gly Leu Arg Ala Pro  
 35 40 45  
 Pro Lys Ser Cys Gln His Asn Gly Thr Met Tyr Gln His Gly Glu Ile  
 50 55 60  
 Phe Ser Ala His Glu Leu Phe Pro Ser Arg Leu Pro Asn Gln Cys Val  
 65 70 75 80  
 Leu Cys Ser Cys Thr Glu Gly Gln Ile Tyr Cys Gly Leu Thr Thr Cys  
 85 90 95  
 Pro Glu Pro Gly Cys Pro Ala Pro Leu Pro Leu Pro Asp Ser Cys Cys  
 100 105 110  
 Gln Ala Cys Lys Asp Glu Ala Ser Glu Gln Ser Asp Glu Glu Asp Ser  
 115 120 125  
 Val Gln Ser Leu His Gly Val Arg His Pro Gln Asp Pro Cys Ser Ser  
 130 135 140  
 Asp Ala Gly Arg Lys Arg Gly Pro Gly Thr Pro Ala Pro Thr Gly Leu  
 145 150 155 160  
 Ser Ala Pro Leu Ser Phe Ile Pro Arg His Phe Arg Pro Lys Gly Ala  
 165 170 175  
 Gly Ser Thr Thr Val Lys Ile Val Leu Lys Glu Lys His Xaa Lys Ala  
 180 185 190  
 Cys Val His Gly Gly Lys Thr Tyr Ser His Gly Glu Val Trp His Pro



195					200					205					
Ala	Phe	Arg	Ala	Phe	Gly	Pro	Cys	Pro	Cys	Ile	Leu	Cys	Thr	Cys	Glu
210						215					220				
Asp	Gly	Arg	Gln	Asp	Cys	Gln	Arg	Val	Thr	Cys	Pro	Thr	Lys	Tyr	Pro
225					230					235					240
Cys	Arg	His	Pro	Glu	Lys	Val	Ala	Gly	Lys	Cys	Cys	Lys	Ile	Cys	Pro
				245					250					255	
Glu	Asp	Lys	Ala	Asp	Pro	Gly	His	Ser	Glu	Ile	Ser	Ser	Thr	Arg	Cys
			260					265					270		
Pro	Lys	Ala	Pro	Gly	Arg	Val	Leu	Val	His	Thr	Ser	Val	Ser	Pro	Ser
		275					280					285			
Pro	Asp	Asn	Leu	Arg	Arg	Phe	Ala	Leu	Glu	His	Glu	Ala	Ser	Asp	Leu
	290					295					300				
Val	Glu	Ile	Tyr	Leu	Trp	Lys	Leu	Val	Lys	Asp	Glu	Glu	Thr	Glu	Ala
305					310					315					320
Gln	Arg	Gly	Glu	Val	Pro	Gly	Pro	Arg	Pro	His	Ser	Gln	Asn	Phe	His
				325					330					335	
Leu	Thr	Gln	Ile	Lys	Lys	Val	Arg	Lys	Gln	Asp	Phe	Gln	Lys	Glu	Ala
			340					345					350		
Gln	His	Phe	Arg	Leu	Leu	Ala	Gly	Pro	His	Glu	Gly	His	Trp	Asn	Val
		355					360					365			
Phe	Leu	Ala	Gln	Thr	Leu	Glu	Leu	Lys	Val	Thr	Ala	Ser	Pro	Asp	Lys
	370					375					380				
Val	Thr	Lys	Thr												
385															

<210> 15  
 <211> 439  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> UNSURE  
 <222> (1)..(439)  
 <223> Xaa = any amino acid, unknown or other

<400> 15  
 Asp Arg Val Phe Gly Leu Glu Pro Pro Gly Thr Asn Met Ala Leu Val  
 1 5 10 15  
 Gly Leu Pro Gly Pro Asp Met Phe Cys Leu Phe His Gly Lys Arg Tyr  
 20 25 30  
 Ser Pro Gly Glu Ser Trp His Pro Tyr Leu Glu Pro Gln Gly Leu Met

35					40					45					
Tyr	Cys	Leu	Arg	Cys	Thr	Cys	Ser	Glu	Gly	Ala	His	Val	Ser	Cys	Tyr
	50					55					60				
Arg	Leu	His	Cys	Pro	Pro	Val	His	Cys	Pro	Gln	Pro	Val	Thr	Glu	Pro
	65					70					75				80
Gln	Gln	Cys	Cys	Pro	Lys	Cys	Val	Glu	Pro	His	Thr	Pro	Ser	Gly	Leu
				85					90					95	
Arg	Ala	Pro	Pro	Lys	Ser	Cys	Gln	His	Asn	Gly	Thr	Met	Tyr	Gln	His
			100					105					110		
Gly	Glu	Ile	Phe	Ser	Ala	His	Glu	Leu	Phe	Pro	Ser	Arg	Leu	Pro	Asn
		115					120					125			
Gln	Cys	Val	Leu	Cys	Ser	Cys	Thr	Glu	Gly	Gln	Ile	Tyr	Cys	Gly	Leu
	130					135					140				
Thr	Thr	Cys	Pro	Glu	Pro	Gly	Cys	Pro	Ala	Pro	Leu	Pro	Leu	Pro	Asp
	145					150					155				160
Ser	Cys	Cys	Gln	Ala	Cys	Lys	Asp	Glu	Ala	Ser	Glu	Gln	Ser	Asp	Glu
				165					170					175	
Glu	Asp	Ser	Val	Gln	Ser	Leu	His	Gly	Val	Arg	His	Pro	Gln	Asp	Pro
			180					185					190		
Cys	Ser	Ser	Asp	Ala	Gly	Arg	Lys	Arg	Gly	Pro	Gly	Thr	Pro	Ala	Pro
		195					200					205			
Thr	Gly	Leu	Ser	Ala	Pro	Leu	Ser	Phe	Ile	Pro	Arg	His	Phe	Arg	Pro
	210					215					220				
Lys	Gly	Ala	Gly	Ser	Thr	Thr	Val	Lys	Ile	Val	Leu	Lys	Glu	Lys	His
	225					230					235				240
Xaa	Lys	Ala	Cys	Val	His	Gly	Gly	Lys	Thr	Tyr	Ser	His	Gly	Glu	Val
				245					250					255	
Trp	His	Pro	Ala	Phe	Arg	Ala	Phe	Gly	Pro	Cys	Pro	Cys	Ile	Leu	Cys
			260					265					270		
Thr	Cys	Glu	Asp	Gly	Arg	Gln	Asp	Cys	Gln	Arg	Val	Thr	Cys	Pro	Thr
		275					280					285			
Lys	Tyr	Pro	Cys	Arg	His	Pro	Glu	Lys	Val	Ala	Gly	Lys	Cys	Cys	Lys
	290					295					300				
Ile	Cys	Pro	Glu	Asp	Lys	Ala	Asp	Pro	Gly	His	Ser	Glu	Ile	Ser	Ser
	305					310					315				320
Thr	Arg	Cys	Pro	Lys	Ala	Pro	Gly	Arg	Val	Leu	Val	His	Thr	Ser	Val
				325					330					335	
Ser	Pro	Ser	Pro	Asp	Asn	Leu	Arg	Arg	Phe	Ala	Leu	Glu	His	Glu	Ala

	340		345		350										
Ser	Asp	Leu	Val	Glu	Ile	Tyr	Leu	Trp	Lys	Leu	Val	Lys	Asp	Glu	Glu
	355						360					365			
Thr	Glu	Ala	Gln	Arg	Gly	Glu	Val	Pro	Gly	Pro	Arg	Pro	His	Ser	Gln
	370					375					380				
Asn	Phe	His	Leu	Thr	Gln	Ile	Lys	Lys	Val	Arg	Lys	Gln	Asp	Phe	Gln
385					390					395					400
Lys	Glu	Ala	Gln	His	Phe	Arg	Leu	Leu	Ala	Gly	Pro	His	Glu	Gly	His
				405					410					415	
Trp	Asn	Val	Phe	Leu	Ala	Gln	Thr	Leu	Glu	Leu	Lys	Val	Thr	Ala	Ser
			420					425					430		
Pro	Asp	Lys	Val	Thr	Lys	Thr									
	435														

<210> 16  
 <211> 549  
 <212> PRT  
 <213> Homo sapiens

<400> 16															
Thr	Phe	Pro	Leu	Ser	Leu	Ile	Ala	Ser	Pro	Phe	Cys	Trp	Thr	Phe	Leu
1				5					10					15	
Arg	Leu	Ser	Ile	Ser	Pro	Ser	Phe	Pro	Arg	Val	Leu	Phe	Pro	Pro	Phe
			20					25					30		
Ser	Ser	Ser	His	Leu	Arg	Pro	Pro	Phe	Leu	Pro	Ser	Phe	Pro	Ala	His
		35					40					45			
Arg	Cys	Phe	Leu	Ala	Leu	Leu	Arg	Pro	Arg	Ser	Ser	Ser	Arg	Pro	Pro
	50					55					60				
Gly	Val	Cys	Gly	Leu	Ile	Cys	Gly	Pro	Cys	Ala	Ser	Val	Ser	Phe	Ser
65					70					75					80
Ser	Pro	Phe	Leu	Pro	Thr	Pro	Leu	Pro	Asp	Gln	Arg	Pro	Asp	Pro	Gly
				85					90					95	
Glu	Arg	Met	Val	Pro	Glu	Val	Arg	Val	Leu	Ser	Ser	Leu	Leu	Gly	Leu
			100					105						110	
Ala	Leu	Leu	Trp	Phe	Pro	Leu	Asp	Ser	His	Ala	Arg	Ala	Arg	Pro	Asp
			115				120					125			
Met	Phe	Cys	Leu	Phe	His	Gly	Lys	Arg	Tyr	Ser	Pro	Gly	Glu	Ser	Trp
130						135					140				
His	Pro	Tyr	Leu	Glu	Pro	Gln	Gly	Leu	Met	Tyr	Cys	Leu	Arg	Cys	Thr
145					150					155					160

Cys	Ser	Glu	Gly	Ala	His	Val	Ser	Cys	Tyr	Arg	Leu	His	Cys	Pro	Pro	
				165					170					175		
Val	His	Cys	Pro	Gln	Pro	Val	Thr	Glu	Pro	Gln	Gln	Cys	Cys	Pro	Lys	
			180					185					190			
Cys	Val	Glu	Pro	His	Thr	Pro	Ser	Gly	Leu	Arg	Ala	Pro	Pro	Lys	Ser	
		195					200					205				
Cys	Gln	His	Asn	Gly	Thr	Met	Tyr	Gln	His	Gly	Glu	Ile	Phe	Ser	Ala	
	210					215					220					
His	Glu	Leu	Phe	Pro	Ser	Arg	Leu	Pro	Asn	Gln	Cys	Val	Leu	Cys	Ser	
225					230					235					240	
Cys	Thr	Glu	Gly	Gln	Ile	Tyr	Cys	Gly	Leu	Thr	Thr	Cys	Pro	Glu	Pro	
				245					250					255		
Gly	Cys	Pro	Ala	Pro	Leu	Pro	Leu	Pro	Asp	Ser	Cys	Cys	Gln	Ala	Cys	
			260					265					270			
Lys	Asp	Glu	Ala	Ser	Glu	Gln	Ser	Asp	Glu	Glu	Asp	Arg	Val	Gln	Ser	
	275						280					285				
Leu	His	Gly	Val	Arg	His	Pro	Gln	Asp	Pro	Cys	Ser	Ser	Asp	Ala	Gly	
	290					295					300					
Arg	Lys	Arg	Gly	Pro	Gly	Thr	Pro	Ala	Pro	Thr	Gly	Leu	Ser	Ala	Pro	
305					310					315					320	
Leu	Ser	Phe	Ile	Pro	Arg	His	Phe	Ile	Pro	Lys	Gly	Ala	Gly	Ser	Thr	
				325					330					335		
Thr	Val	Lys	Ile	Val	Leu	Lys	Glu	Lys	His	Lys	Lys	Ala	Cys	Val	His	
			340					345					350			
Gly	Gly	Lys	Thr	Tyr	Ser	His	Gly	Glu	Val	Trp	His	Pro	Ala	Phe	Arg	
		355					360					365				
Ala	Phe	Gly	Pro	Leu	Pro	Cys	Ile	Leu	Cys	Thr	Cys	Glu	Asp	Gly	Arg	
	370					375					380					
Gln	Asp	Cys	Gln	Arg	Val	Thr	Cys	Pro	Thr	Glu	Tyr	Pro	Cys	Arg	His	
385					390					395					400	
Pro	Glu	Lys	Val	Ala	Gly	Lys	Cys	Cys	Lys	Ile	Cys	Pro	Glu	Asp	Lys	
				405					410					415		
Ala	Asp	Pro	Gly	His	Ser	Glu	Ile	Ser	Ser	Thr	Arg	Cys	Pro	Lys	Ala	
			420					425					430			
Pro	Gly	Arg	Val	Leu	Val	His	Thr	Ser	Val	Ser	Pro	Ser	Pro	Asp	Asn	
		435					440					445				
Leu	Arg	Arg	Phe	Ala	Leu	Glu	His	Glu	Ala	Ser	Asp	Leu	Val	Glu	Ile	
	450					455					460					

Tyr Leu Trp Lys Leu Val Lys Asp Glu Glu Thr Glu Ala Gln Arg Gly  
 465 470 475 480

Glu Val Pro Gly Pro Arg Pro His Ser Gln Asn Leu Pro Leu Asp Ser  
 485 490 495

Asp Gln Glu Ser Gln Glu Ala Arg Leu Pro Glu Arg Gly Thr Ala Leu  
 500 505 510

Pro Thr Ala Arg Trp Pro Pro Arg Arg Ser Leu Glu Arg Leu Pro Ser  
 515 520 525

Pro Asp Pro Gly Ala Glu Gly His Gly Gln Ser Arg Gln Ser Asp Gln  
 530 535 540

Asp Ile Thr Lys Thr  
 545

<210> 17  
 <211> 549  
 <212> PRT  
 <213> Homo sapiens

<400> 17  
 Thr Phe Pro Leu Ser Leu Ile Ala Ser Pro Phe Cys Trp Thr Phe Leu  
 1 5 10 15

Arg Leu Ser Ile Ser Pro Ser Phe Pro Arg Val Leu Phe Pro Pro Phe  
 20 25 30

Ser Ser Ser His Leu Arg Pro Pro Phe Leu Pro Ser Phe Pro Ala His  
 35 40 45

Arg Cys Phe Leu Ala Leu Leu Arg Pro Arg Ser Ser Ser Arg Pro Pro  
 50 55 60

Gly Val Cys Gly Leu Ile Cys Gly Pro Cys Ala Ser Val Ser Phe Ser  
 65 70 75 80

Ser Pro Phe Leu Pro Thr Pro Leu Pro Asp Gln Arg Pro Asp Pro Gly  
 85 90 95

Glu Arg Met Val Pro Glu Val Arg Val Leu Ser Ser Leu Leu Gly Leu  
 100 105 110

Ala Leu Leu Trp Phe Pro Leu Asp Ser His Ala Arg Ala Arg Pro Asp  
 115 120 125

Met Phe Cys Leu Phe His Gly Lys Arg Tyr Ser Pro Gly Glu Ser Trp  
 130 135 140

His Pro Tyr Leu Glu Pro Gln Gly Leu Met Tyr Cys Leu Arg Cys Thr  
 145 150 155 160

Cys Ser Glu Gly Ala His Val Ser Cys Tyr Arg Leu His Cys Pro Pro  
 165 170 175



Val	His	Cys	Pro	Gln	Pro	Val	Thr	Glu	Pro	Gln	Gln	Cys	Cys	Pro	Lys	180	185	190	
Cys	Val	Glu	Pro	His	Thr	Pro	Ser	Gly	Leu	Arg	Ala	Pro	Pro	Lys	Ser	195	200	205	
Cys	Gln	His	Asn	Gly	Thr	Met	Tyr	Gln	His	Gly	Glu	Ile	Phe	Ser	Ala	210	215	220	
His	Glu	Leu	Phe	Pro	Ser	Arg	Leu	Pro	Asn	Gln	Cys	Val	Leu	Cys	Ser	225	230	235	240
Cys	Thr	Glu	Gly	Gln	Ile	Tyr	Cys	Gly	Leu	Thr	Thr	Cys	Pro	Glu	Pro	245	250	255	
Gly	Cys	Pro	Ala	Pro	Leu	Pro	Leu	Pro	Asp	Ser	Cys	Cys	Gln	Ala	Cys	260	265	270	
Lys	Gly	Glu	Ala	Ser	Glu	Gln	Ser	Asp	Glu	Glu	Asp	Ser	Val	Gln	Ser	275	280	285	
Leu	His	Gly	Val	Arg	His	Pro	Gln	Asp	Pro	Cys	Ser	Ser	Asp	Ala	Gly	290	295	300	
Arg	Lys	Arg	Gly	Pro	Gly	Thr	Pro	Ala	Pro	Thr	Gly	Leu	Ser	Ala	Pro	305	310	315	320
Leu	Ser	Phe	Ile	Pro	Arg	His	Phe	Arg	Pro	Lys	Gly	Ala	Gly	Ser	Thr	325	330	335	
Thr	Val	Lys	Ile	Val	Leu	Lys	Glu	Lys	His	Lys	Lys	Ala	Cys	Val	His	340	345	350	
Gly	Gly	Lys	Thr	Tyr	Ser	His	Gly	Glu	Val	Trp	His	Pro	Ala	Phe	Arg	355	360	365	
Ala	Phe	Gly	Pro	Leu	Pro	Cys	Ile	Leu	Cys	Thr	Cys	Glu	Asp	Gly	Arg	370	375	380	
Gln	Asp	Cys	Gln	Arg	Val	Thr	Cys	Pro	Thr	Glu	Tyr	Pro	Cys	Arg	His	385	390	395	400
Pro	Glu	Lys	Val	Ala	Gly	Lys	Cys	Cys	Lys	Ile	Cys	Pro	Glu	Asp	Lys	405	410	415	
Ala	Asp	Pro	Gly	His	Ser	Glu	Ile	Ser	Ser	Thr	Arg	Cys	Pro	Lys	Ala	420	425	430	
Pro	Gly	Arg	Val	Leu	Val	His	Thr	Ser	Val	Ser	Pro	Ser	Pro	Asp	Asn	435	440	445	
Leu	Arg	Arg	Phe	Ala	Leu	Glu	His	Glu	Ala	Ser	Asp	Leu	Val	Glu	Ile	450	455	460	
Tyr	Leu	Trp	Lys	Leu	Val	Lys	Asp	Glu	Glu	Thr	Glu	Ala	Gln	Arg	Gly	465	470	475	480

Glu Val Pro Gly Pro Arg Pro His Ser Gln Asn Leu Pro Leu Asp Ser  
485 490 495

Asp Gln Glu Ser Gln Glu Ala Arg Leu Pro Glu Arg Gly Thr Ala Leu  
500 505 510

Pro Thr Ala Arg Trp Pro Pro Arg Arg Ser Leu Glu Arg Leu Pro Ser  
515 520 525

Pro Asp Pro Gly Ala Glu Gly His Gly Gln Ser Arg Gln Ser Asp Gln  
530 535 540

Asp Ile Thr Lys Thr  
545

<210> 18  
<211> 392  
<212> PRT  
<213> Homo sapiens

<400> 18  
Ile Ser Ser Trp Gly Gln Met Gln Asn His Gln Lys Ser Gly Leu Val  
1 5 10 15

Asn Phe Ser Lys Asp Ser His Glu Thr Ser Phe Ser Ser Ser Ser Cys  
20 25 30

Pro Ser Pro Thr Ala Glu Pro His Thr Pro Ser Gly Leu Arg Ala Pro  
35 40 45

Pro Lys Ser Cys Gln His Asn Gly Thr Met Tyr Gln His Gly Glu Ile  
50 55 60

Phe Ser Ala His Glu Leu Phe Pro Ser Arg Leu Pro Asn Gln Cys Val  
65 70 75 80

Leu Cys Ser Cys Thr Glu Gly Gln Ile Tyr Cys Gly Leu Thr Thr Cys  
85 90 95

Pro Glu Pro Gly Cys Pro Ala Pro Leu Pro Leu Pro Asp Ser Cys Cys  
100 105 110

Gln Ala Cys Lys Asp Glu Ala Ser Glu Gln Ser Asp Glu Glu Asp Ser  
115 120 125

Val Gln Ser Leu His Gly Val Arg His Pro Gln Asp Pro Cys Ser Ser  
130 135 140

Asp Ala Gly Arg Lys Arg Gly Pro Gly Thr Pro Ala Pro Thr Gly Leu  
145 150 155 160

Ser Ala Pro Leu Ser Phe Ile Pro Arg His Phe Arg Pro Lys Gly Ala  
165 170 175

Gly Ser Thr Thr Val Lys Ile Val Leu Lys Glu Lys His Lys Lys Ala

	180		185		190										
Cys	Val	His	Gly	Gly	Lys	Thr	Tyr	Ser	His	Gly	Glu	Val	Trp	His	Pro
	195						200					205			
Ala	Phe	Arg	Ala	Phe	Gly	Pro	Leu	Pro	Cys	Ile	Leu	Cys	Thr	Cys	Glu
	210					215					220				
Asp	Gly	Arg	Gln	Asp	Cys	Gln	Arg	Val	Thr	Cys	Pro	Thr	Glu	Tyr	Pro
225					230					235					240
Cys	Arg	His	Pro	Glu	Lys	Val	Ala	Gly	Lys	Cys	Cys	Lys	Ile	Cys	Pro
				245					250					255	
Glu	Asp	Lys	Ala	Asp	Pro	Gly	His	Ser	Glu	Ile	Ser	Ser	Thr	Arg	Cys
			260					265					270		
Pro	Lys	Ala	Pro	Gly	Arg	Val	Leu	Val	His	Thr	Ser	Val	Ser	Pro	Ser
		275					280					285			
Pro	Asp	Asn	Leu	Arg	Arg	Phe	Ala	Leu	Glu	His	Glu	Ala	Ser	Asp	Leu
	290					295					300				
Val	Glu	Ile	Tyr	Leu	Trp	Lys	Leu	Val	Lys	Asp	Glu	Glu	Thr	Glu	Ala
305					310					315					320
Gln	Arg	Gly	Glu	Val	Pro	Gly	Pro	Arg	Pro	His	Ser	Gln	Asn	Leu	Pro
				325					330					335	
Leu	Asp	Ser	Asp	Gln	Glu	Ser	Gln	Glu	Ala	Arg	Leu	Pro	Glu	Arg	Gly
			340					345					350		
Thr	Ala	Leu	Pro	Thr	Ala	Arg	Trp	Pro	Pro	Arg	Arg	Ser	Leu	Glu	Arg
		355					360					365			
Leu	Pro	Ser	Pro	Asp	Pro	Gly	Ala	Glu	Gly	His	Gly	Gln	Ser	Arg	Gln
	370					375					380				
Ser	Asp	Gln	Asp	Ile	Thr	Lys	Thr								
385					390										

<210> 19  
 <211> 443  
 <212> PRT  
 <213> Homo sapiens

<400> 19  
 Asp Arg Val Phe Gly Leu Glu Pro Pro Gly Thr Asn Met Ala Leu Val  
 1 5 10 15  
 Gly Leu Pro Gly Pro Asp Met Phe Cys Leu Phe His Gly Lys Arg Tyr  
 20 25 30  
 Ser Pro Gly Glu Ser Trp His Pro Tyr Leu Glu Pro Gln Gly Leu Met  
 35 40 45

Tyr	Cys	Leu	Arg	Cys	Thr	Cys	Ser	Glu	Gly	Ala	His	Val	Ser	Cys	Tyr	50	55	60	
Arg	Leu	His	Cys	Pro	Pro	Val	His	Cys	Pro	Gln	Pro	Val	Thr	Glu	Pro	65	70	75	80
Gln	Gln	Cys	Cys	Pro	Lys	Cys	Val	Glu	Pro	His	Thr	Pro	Ser	Gly	Leu	85	90	95	
Arg	Ala	Pro	Pro	Lys	Ser	Cys	Gln	His	Asn	Gly	Thr	Met	Tyr	Gln	His	100	105	110	
Gly	Glu	Ile	Phe	Ser	Ala	His	Glu	Leu	Phe	Pro	Ser	Arg	Leu	Pro	Asn	115	120	125	
Gln	Cys	Val	Leu	Cys	Ser	Cys	Thr	Glu	Gly	Gln	Ile	Tyr	Cys	Gly	Leu	130	135	140	
Thr	Thr	Cys	Pro	Glu	Pro	Gly	Cys	Pro	Ala	Pro	Leu	Pro	Leu	Pro	Asp	145	150	155	160
Ser	Cys	Cys	Gln	Ala	Cys	Lys	Asp	Glu	Ala	Ser	Glu	Gln	Ser	Asp	Glu	165	170	175	
Glu	Asp	Ser	Val	Gln	Ser	Leu	His	Gly	Val	Arg	His	Pro	Gln	Asp	Pro	180	185	190	
Cys	Ser	Ser	Asp	Ala	Gly	Arg	Lys	Arg	Gly	Pro	Gly	Thr	Pro	Ala	Pro	195	200	205	
Thr	Gly	Leu	Ser	Ala	Pro	Leu	Ser	Phe	Ile	Pro	Arg	His	Phe	Arg	Pro	210	215	220	
Lys	Gly	Ala	Gly	Ser	Thr	Thr	Val	Lys	Ile	Val	Leu	Lys	Glu	Lys	His	225	230	235	240
Lys	Lys	Ala	Cys	Val	His	Gly	Gly	Lys	Thr	Tyr	Ser	His	Gly	Glu	Val	245	250	255	
Trp	His	Pro	Ala	Phe	Arg	Ala	Phe	Gly	Pro	Leu	Pro	Cys	Ile	Leu	Cys	260	265	270	
Thr	Cys	Glu	Asp	Gly	Arg	Gln	Asp	Cys	Gln	Arg	Val	Thr	Cys	Pro	Thr	275	280	285	
Glu	Tyr	Pro	Cys	Arg	His	Pro	Glu	Lys	Val	Ala	Gly	Lys	Cys	Cys	Lys	290	295	300	
Ile	Cys	Pro	Glu	Asp	Lys	Ala	Asp	Pro	Gly	His	Ser	Glu	Ile	Ser	Ser	305	310	315	320
Thr	Arg	Cys	Pro	Lys	Ala	Pro	Gly	Arg	Val	Leu	Val	His	Thr	Ser	Val	325	330	335	
Ser	Pro	Ser	Pro	Asp	Asn	Leu	Arg	Arg	Phe	Ala	Leu	Glu	His	Glu	Ala	340	345	350	

Ser Asp Leu Val Glu Ile Tyr Leu Trp Lys Leu Val Lys Asp Glu Glu  
 355 360 365  
 Thr Glu Ala Gln Arg Gly Glu Val Pro Gly Pro Arg Pro His Ser Gln  
 370 375 380  
 Asn Leu Pro Leu Asp Ser Asp Gln Glu Ser Gln Glu Ala Arg Leu Pro  
 385 390 395 400  
 Glu Arg Gly Thr Ala Leu Pro Thr Ala Arg Trp Pro Pro Arg Arg Ser  
 405 410 415  
 Leu Glu Arg Leu Pro Ser Pro Asp Pro Gly Ala Glu Gly His Gly Gln  
 420 425 430  
 Ser Arg Gln Ser Asp Gln Asp Ile Thr Lys Thr  
 435 440

<210> 20  
 <211> 378  
 <212> PRT  
 <213> Homo sapiens

<400> 20  
 Asp Arg Val Phe Gly Leu Glu Pro Pro Gly Thr Asn Met Ala Leu Val  
 1 5 10 15  
 Gly Leu Pro Gly Pro Asp Met Phe Cys Leu Phe His Gly Lys Arg Tyr  
 20 25 30  
 Ser Pro Gly Glu Ser Trp His Pro Tyr Leu Glu Pro Gln Gly Leu Met  
 35 40 45  
 Tyr Cys Leu Arg Cys Thr Cys Ser Glu Gly Ala His Val Ser Cys Tyr  
 50 55 60  
 Arg Leu His Cys Pro Pro Val His Cys Pro Gln Pro Val Thr Glu Pro  
 65 70 75 80  
 Gln Gln Cys Cys Pro Lys Cys Val Glu Pro His Thr Pro Ser Gly Leu  
 85 90 95  
 Arg Ala Pro Pro Lys Ser Cys Gln His Asn Gly Thr Met Tyr Gln His  
 100 105 110  
 Gly Glu Ile Phe Ser Ala His Glu Leu Phe Pro Ser Arg Leu Pro Asn  
 115 120 125  
 Gln Cys Val Leu Cys Ser Cys Thr Glu Gly Gln Ile Tyr Cys Gly Leu  
 130 135 140  
 Thr Thr Cys Pro Glu Pro Gly Cys Pro Ala Pro Leu Pro Leu Pro Asp  
 145 150 155 160  
 Ser Cys Cys Gln Ala Cys Lys Asp Glu Ala Ser Glu Gln Ser Asp Glu  
 165 170 175



Glu Asp Ser Val Gln Ser Leu His Gly Val Arg His Pro Gln Asp Pro  
 180 185 190  
 Cys Ser Ser Asp Ala Gly Arg Lys Arg Gly Pro Gly Thr Pro Ala Pro  
 195 200 205  
 Thr Gly Leu Ser Ala Pro Leu Ser Phe Ile Pro Arg His Phe Arg Pro  
 210 215 220  
 Lys Gly Ala Gly Ser Thr Thr Val Lys Ile Val Leu Lys Glu Lys His  
 225 230 235 240  
 Lys Lys Glu Asp Lys Ala Asp Pro Gly His Ser Glu Ile Ser Ser Thr  
 245 250 255  
 Arg Cys Pro Lys Ala Pro Gly Arg Val Leu Val His Thr Ser Val Ser  
 260 265 270  
 Pro Ser Pro Asp Asn Leu Arg Arg Phe Ala Leu Glu His Glu Ala Ser  
 275 280 285  
 Asp Leu Val Glu Ile Tyr Leu Trp Lys Leu Val Lys Asp Glu Glu Thr  
 290 295 300  
 Glu Ala Gln Arg Gly Glu Val Pro Gly Pro Arg Pro His Ser Gln Asn  
 305 310 315 320  
 Leu Pro Leu Asp Ser Asp Gln Glu Ser Gln Glu Ala Arg Leu Pro Glu  
 325 330 335  
 Arg Gly Thr Ala Leu Pro Thr Ala Arg Trp Pro Pro Arg Arg Ser Leu  
 340 345 350  
 Glu Arg Leu Pro Ser Pro Asp Pro Gly Ala Glu Gly His Gly Gln Ser  
 355 360 365  
 Arg Gln Ser Asp Gln Asp Ile Thr Lys Thr  
 370 375

<210> 21  
 <211> 356  
 <212> PRT  
 <213> Homo sapiens

<400> 21  
 Asp Arg Val Phe Gly Leu Glu Pro Pro Gly Thr Asn Met Ala Leu Val  
 1 5 10 15  
 Gly Leu Pro Gly Pro Asp Met Phe Cys Leu Phe His Gly Lys Arg Tyr  
 20 25 30  
 Ser Pro Gly Glu Ser Trp His Pro Tyr Leu Glu Pro Gln Gly Leu Met  
 35 40 45  
 Tyr Cys Leu Arg Cys Thr Cys Ser Glu Gly Ala His Val Ser Cys Tyr

50					55					60					
Arg	Leu	His	Cys	Pro	Pro	Val	His	Cys	Pro	Gln	Pro	Val	Thr	Glu	Pro
65					70					75					80
Gln	Gln	Cys	Cys	Pro	Lys	Cys	Val	Glu	Pro	His	Thr	Pro	Ser	Gly	Leu
				85					90					95	
Arg	Ala	Pro	Pro	Lys	Ser	Cys	Gln	His	Asn	Gly	Thr	Met	Tyr	Gln	His
			100					105					110		
Gly	Glu	Ile	Phe	Ser	Ala	His	Glu	Leu	Phe	Pro	Ser	Arg	Leu	Pro	Asn
		115					120					125			
Gln	Cys	Val	Leu	Cys	Ser	Cys	Thr	Glu	Gly	Gln	Ile	Tyr	Cys	Gly	Leu
	130					135					140				
Thr	Thr	Cys	Pro	Glu	Pro	Gly	Cys	Pro	Ala	Pro	Leu	Pro	Leu	Pro	Asp
145					150					155					160
Ser	Cys	Cys	Gln	Ala	Cys	Lys	Asp	Glu	Ala	Ser	Glu	Gln	Ser	Asp	Glu
			165						170					175	
Glu	Asp	Ser	Val	Gln	Ser	Leu	His	Gly	Val	Arg	His	Pro	Gln	Asp	Pro
			180					185					190		
Cys	Ser	Ser	Asp	Ala	Gly	Arg	Lys	Arg	Gly	Pro	Gly	Thr	Pro	Ala	Pro
		195					200					205			
Thr	Gly	Leu	Ser	Ala	Pro	Leu	Ser	Phe	Ile	Pro	Arg	His	Phe	Arg	Pro
	210					215					220				
Lys	Gly	Ala	Gly	Ser	Thr	Thr	Val	Lys	Ile	Val	Leu	Lys	Glu	Lys	His
225					230					235					240
Lys	Lys	Glu	Asp	Lys	Ala	Asp	Pro	Gly	His	Ser	Glu	Ile	Ser	Ser	Thr
			245						250					255	
Arg	Cys	Pro	Lys	Ala	Pro	Gly	Arg	Val	Leu	Val	His	Thr	Ser	Val	Ser
			260					265					270		
Pro	Ser	Pro	Asp	Asn	Leu	Arg	Arg	Phe	Ala	Leu	Glu	His	Glu	Ala	Ser
		275					280					285			
Asp	Leu	Val	Glu	Ile	Tyr	Leu	Trp	Lys	Leu	Val	Lys	Gly	Ile	Phe	His
	290					295					300				
Leu	Thr	Gln	Ile	Lys	Lys	Val	Arg	Lys	Gln	Asp	Phe	Gln	Lys	Glu	Ala
305					310					315					320
Gln	His	Phe	Arg	Leu	Leu	Ala	Gly	Pro	His	Glu	Gly	His	Trp	Asn	Val
			325						330					335	
Phe	Leu	Ala	Gln	Thr	Leu	Glu	Leu	Lys	Val	Thr	Ala	Ser	Pro	Asp	Lys
			340					345					350		
Val	Thr	Lys	Thr												

<210> 22  
 <211> 397  
 <212> PRT  
 <213> Mouse

<220>  
 <221> UNSURE  
 <222> (1)..(397)  
 <223> Xaa = any amino acid, unknown or other

<400> 22

Phe	Leu	Tyr	Ser	Ser	His	Thr	Ala	Leu	Pro	Thr	His	Thr	Ser	Pro	Lys
1				5					10					15	
Val	Xaa	Glu	Ser	Pro	Gly	Gly	Trp	Leu	Ala	Lys	Ser	Leu	Ser	Val	Xaa
			20					25					30		
Leu	Leu	Ile	Ser	Leu	Arg	Ile	Ser	Thr	Ser	Pro	Thr	Arg	Phe	Cys	Val
		35					40					45			
Glu	Pro	Val	Leu	Ser	Val	Cys	Leu	Ser	Val	Cys	Leu	Ser	Val	Cys	Leu
	50					55					60				
Ser	Ala	Cys	Leu	Ser	Leu	Ser	Val	Ser	Val	Cys	Leu	Cys	Leu	Ser	Val
65					70					75					80
Cys	Leu	Cys	Leu	Ser	Leu	Ser	Leu	Cys	Leu	Ser	Leu	Cys	Leu	Cys	Leu
				85					90					95	
Cys	Leu	Cys	Leu	Ser	Leu	Ser	Leu	Arg	Ser	Pro	Leu	Ala	Phe	Ser	Ser
			100					105					110		
Arg	Arg	Leu	Met	Gln	Pro	Gly	Trp	Cys	Ser	Gln	Leu	Trp	Pro	Ile	Pro
		115					120					125			
Gln	Thr	Ala	Pro	His	Pro	Ala	Cys	Cys	Ser	Gln	Arg	His	Ser	Gln	Asp
	130					135					140				
Pro	Cys	Ser	Glu	Arg	Arg	Gly	Pro	Ser	Thr	Pro	Ala	Pro	Thr	Ser	Leu
145					150					155					160
Ser	Ser	Pro	Leu	Gly	Phe	Ile	Xaa	Arg	His	Phe	Gln	Ser	Val	Gly	Met
				165					170					175	
Gly	Ser	Thr	Thr	Ile	Lys	Ile	Ile	Leu	Lys	Glu	Lys	His	Lys	Lys	Ala
			180					185					190		
Cys	Thr	His	Asn	Gly	Lys	Thr	Tyr	Ser	His	Gly	Glu	Val	Trp	His	Pro
		195					200					205			
Thr	Val	Leu	Ser	Phe	Gly	Pro	Met	Pro	Cys	Ile	Leu	Cys	Thr	Cys	Ile
	210					215					220				
Asp	Gly	Tyr	Gln	Asp	Cys	His	Arg	Val	Thr	Cys	Pro	Thr	Gln	Tyr	Pro

225		230		235		240									
Cys	Ser	Gln	Pro	Lys	Lys	Val	Ala	Gly	Lys	Cys	Cys	Lys	Ile	Cys	Pro
				245					250					255	
Glu	Asp	Glu	Ala	Glu	Asp	Asp	His	Ser	Glu	Val	Ile	Ser	Thr	Arg	Cys
			260					265					270		
Pro	Lys	Val	Pro	Gly	Gln	Phe	Gln	Val	Tyr	Thr	Leu	Ala	Ser	Pro	Ser
		275					280					285			
Pro	Asp	Ser	Leu	His	Arg	Phe	Val	Leu	Glu	His	Glu	Ala	Ser	Asp	Gln
	290					295					300				
Val	Glu	Met	Tyr	Ile	Trp	Lys	Leu	Val	Lys	Gly	Ile	Tyr	His	Leu	Val
305					310					315					320
Gln	Ile	Lys	Arg	Val	Arg	Lys	Gln	Asp	Phe	Gln	Lys	Glu	Val	Gln	Asn
				325					330					335	
Phe	Arg	Leu	Leu	Thr	Gly	Thr	His	Glu	Gly	Tyr	Trp	Thr	Val	Phe	Leu
			340					345					350		
Ala	Gln	Ile	Pro	Glu	Leu	Lys	Val	Thr	Ala	Ser	Pro	Asp	Lys	Val	Thr
		355					360					365			
Lys	Thr	Leu	Gln	Gly	Pro	Lys	Glu	Leu	Gln	Ile	Arg	Val	Leu	Leu	Val
	370					375					380				
Leu	Leu	Leu	Tyr	Ile	Asn	Lys	Glu	Val	Ala	Leu	Pro	Phe			
385					390					395					

<210> 23  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> DNA sense primer

<400> 23  
 gaaagcctgt gtgcatggcg g

21

<210> 24  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> DNA anti-sense primer

<400> 24  
 agtcatatc tgcaactgtt agg

23